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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/808,223
Filing Date: March 23, 2004
Appellant(s): KRISHNASWAMY ET AL.

Arvind R. Reddy (Registration No. 63,007)
<u>For Appellant</u>

EXAMINER'S ANSWER

This is in response to the appeal brief filed 08/13/2009 appealing from the Office action

mailed 6/3/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| 20020120652 | Rising et al. | 8-2002 |
| 20030037174 | Lavin et al. | 12-2000 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

- Claims 1 – 6, 11 – 13 and 15 – 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

- Claims 22 – 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- Claims 1 – 6, 11 – 13 and 15 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2002/0120652 to Rising et al. [hereinafter Rising] in view of U.S. Patent Application Publication No. 2003/0037174 to Lavin et al. [hereinafter Lavin].

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 – 6, 11 – 13 and 15 – 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Currently amended claims 1, 11, 17, 22 and 26 recite the new limitation "converting by the data transformation adapter the one or more data objects in XML to a non-eXtensible Markup Language (non-XML)". There does not appear to be a written description of the claimed limitation in the application as filed. Examiner was unable to find specific disclosure of converting data in XML to non-XML. In addition, dependent claims 4, 13, 20, and 25 identify the non-XML as including an application-specific object model type. However, application's specification discloses that application-specific object model object types are represented in XML schema [p. 8, lines 8 – 9 and line 27]. Therefore, it is unclear as to how non-XML data objects can include application-specific object model types that are represented in XML schema. Applicant's specification does not disclose or suggest converting data in XML to non-XML format.

The specification discloses an adapter that performs transformation between a domain object model format (DOM) and an application specific object model format

(ASOM) [p. 4, lines 18 – 20; p. 5, lines 1 – 18; p. 5, lines 19 – 30; p. 17, lines 1 – 16; "At

step 82, the transformation system converts the DOM objects to ASOM objects," p. 18,

lines 7 – 9; p. 19, lines 13 – 19] and in one embodiment, both the domain objects and

application objects are Java objects [p. 4, lines 19 – 20; p. 5, lines 22 – 30]. In addition,

the specification discloses: "objects in the input parameter list are of the types defined in

the DOM and they are converted to the ASOM types" [p. 5, lines 13 – 15],

"transformation layer 24 transforms data from the DOM format to the ASOM format,

and/or from the ASOM format to the DOM format" [p. 7, lines 10 – 12], and "a group or

set of transformation classes may be used to transform objects from the DOM to the

ASOM, and a different group or set of transformation classes may be used to transform

objects from the ASOM to the DOM" [p. 16, lines 5 – 15]. It is noted that the

specification discloses using XML mapping rules to transform objects from the DOM

format to ASOM format [p. 17, lines 10 – 16]. The mapping rules are in the XML format;

however, the objects are in the DOM and ASOM format. Therefore, it is submitted that

the specification only discloses converting between DOM object types and ASOM object

types and does not disclose "converting by the data transformation adapter the one or

more data objects in XML to a non-eXtensible Markup Language (non-XML)".

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

Claims 22 – 25 are rejected under 35 U.S.C. 101 because the claimed invention

is directed to non-statutory subject matter.

Claim 22 recites a system comprising: a communication line, a computer

readable medium having a transformation adapter, transformation class generator, and

an application. The transformation adapter, transformation class generator, and an

application are interpreted as software only. The communication line as disclosed in the

specification (p. 21, lines 1 – 5) includes wireless or infrared signals. The amendment

to claim 22 adds "a computer readable medium" to the system of claim 22. However,

specification does not provide antecedent basis for the term "computer readable

medium". The specification provides support for communication media that includes

wireless signals [p. 21, lines 1 – 14] and disk storage [p. 20, lines 18 – 25]. Without

antecedent basis for the term "computer readable medium", it is submitted that the term

computer readable medium is sufficiently broad to include wireless signals, which are

non-statutory subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1 – 6, 11 – 13 and 15 – 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent Application Publication No. 2002/0120652 to Rising et al.

[hereinafter Rising] in view of U.S. Patent Application Publication No. 2003/0037174 to

Lavin et al. [hereinafter Lavin].

As to claim 1, Rising teaches a method of data object transformation between a

middleware and an application [paragraph 0023], the method comprising:

receiving a message by a data transformation adapter [DDL to ASDL translators

113, 119; paragraph 0023], the message including one or more data objects in an

extensible Markup Language (XML) [DDL for MPEG-7 multimedia content is based on

the XML; paragraph 0008],

converting by the data transformation adapter [translators 113, 119 use transform

functions defined in an XSLT (XML stylesheet translation) document that maps between

DDL and ASDL namespaces; paragraph 0023] the one or more data objects in XML to

a non-extensible Markup Language (non-XML) [ASDL may written in a language other

than XML; paragraph 0024], wherein the one or more data objects are converted using

a first set of one or more transformation classes [paragraph 0028], the one or more

transformation classes being configured to transform the one or more data objects in

XML to non-XML [paragraph 0023 and 0024], each of the one or more transformation

classes generated using mapping rules [transformation functions for mapping into the

application specific markup language; paragraph 0031], the mapping rules including

XML based syntax that uses rule specification guide to facilitate transforming the one or

more data objects in XML to non-XML [paragraph 0024]; and

transmitting by the data transformation adapter the one or more data objects in

non-XML to an application [resulting binary ASDL instance document is published on

the web site 108 for transmission to the clients 102, 104 upon request; paragraph 0032].

Rising does not teach a messaging middleware, a message in a first communications

format, converting by the data transformation adapter the message from the first

communications format to a second communications format.

However, Lavin teaches a messaging middleware [middleware software 116;

paragraph 0066], a message in a first communications format [middleware format;

paragraph 0084], converting by the data transformation adapter the message from the

first communications format to a second communications format [translation 138 moves

the data from the middleware format to a neutral format which is then converted to the

application format by the plug 140; paragraph 0085].

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the invention of Rising to incorporate the features of

Lavin. One of ordinary skill in the art would have been motivated to make the

combination because this organizes an adapter/connector into a plug and socket and
isolates application-specific software services and resources into the plug and
middleware-specific software components into the socket [paragraph 0034 of Lavin].

As to claim 11, Rising as modified teaches a data transformation adapter [DDL to
ASDL translators 113, 119; paragraph 0023 of Rising] having program instructions
stored in memory [paragraph 0033 of Rising], the program instructions comprising:

generating a first object model [DDL for MPEG-7 multimedia content is based on
the XML; paragraph 0008 of Rising] and a second object model [ASDL may written in a
language other than XML; paragraph 0024 of Rising], the first object model including a
plurality of data objects in an extensible Markup Language (XML) [paragraph 0008 of
Rising], and the second object model including a plurality of data objects in a non-
extensible Markup Language [paragraph 0024 of Rising] storing the first and second
object models in one or more memories [paragraph 0033 of Rising];

generating mapping rules [paragraph 0023 of Rising], the mapping rules
including XML based syntax that uses rule specification guide to facilitate transforming
the one or more data objects in XML to non-XML [paragraph 0023 and 0024 of Rising
and paragraph 0085 of Lavin];

generating a plurality of transformation classes using the first and second object
models and the transformation mapping rules [paragraph 0023 of Rising], the one or
more transformation classes being configured to transform the one or more data objects

in XML to non-XML receiving one or more data objects [paragraph 0023 and 0024 of

Rising and paragraph 0142 of Lavin];

converting the received one or more data objects, via the transformation classes,

(1) in XML to non-XML [paragraph 0024 of Rising]; or (2) in non-XML to XML; and

transmitting the converted one or more data objects [paragraph 0032 of Rising].

As to claim 17, this is a system claim that corresponds to method claim 1;

therefore, it is rejected for the same reasons as claim 1 above.

As to claim 22, Rising as modified teaches a system for data object

transformation [paragraph 0023 of Rising], the system comprising:

a communications line [paragraph 0031 of Rising];

a computer readable medium executable on a computer system the computing

system coupled to the communications line [paragraph 0033 of Rising and paragraph

0160 of Lavin], the computer readable medium having a transformation adapter

[paragraph 0023 of Rising] coupled to the communications line, the transformation

adapter including:

an assembly/disassembly layer configured to convert messages from a first

communications format to a second communications format [paragraph 0085 of Lavin];

a transformation layer configured to convert data objects in an extensible

Markup Language (XML) to a non-extensible Markup Language (non-XML) using one or

more transformation classes [paragraph 0023 of Rising], the one or more transformation

classes being configured to transform the one or more data objects in XML to non-XML

[paragraph 0024 of Rising]; and

a method invocation layer [paragraph 0196 of Lavin];

a transformation class generator coupled to the transformation adapter, the

transformation class generator configured to generate the one or more transformation

classes using transformation mapping rules [paragraph 0031 of Rising], the mapping

rules including XML based syntax that uses rule specification guide to facilitate

transforming the one or more data objects in XML to non-XML [paragraph 0024 of

Rising]; and

an application coupled to the transformation adapter, wherein the application

transmits data to and receives data from the method invocation layer [paragraph 0032

of Rising].

As to claim 26, this is an apparatus claim that corresponds to program product

claim 11; therefore, it is rejected for the same reasons as claim 11 above.

As to claim 2, Rising as modified teaches the first communications format

includes a middleware-dependent format, and the second communications format

includes a middleware-independent format [translation 138 moves the data from the

middleware format to a neutral format which is then converted to the application format

by the plug 140; paragraph 0085 of Lavin].

As to claim 3, Rising as modified teaches wherein each of the one or more data objects includes a Java object [paragraph 0088 of Lavin].

As to claim 4, Rising teaches wherein the XML includes a domain object model type [DDL, general application domain; paragraph 0013] and the non-XML includes an application-specific object model type [Application Specific Description Languages; paragraph 0022].

As to claim 5, Rising as modified teaches registering the application with the messaging middleware [paragraph 0118 of Lavin]; and transmitting high-level function calls to the application [paragraph 0031 of Lavin].

As to claim 6, Rising as modified teaches receiving a second message from the application, the second message including one or more data objects in non-XML [translating back (via XSLT) to the full DDL, and through a second translation function; paragraph 0037 of Rising]; converting the one or more data objects in non-XML to XML, wherein the one or more data objects are converted using a second set of one or more of the transformation classes [paragraph 0023 of Rising]; generating a communications line dependent message, the communications line dependent message including the one or more data objects in XML [paragraph 0085 of Lavin]; and transmitting the communications line dependent message to the messaging middleware [paragraph 0032 of Rising].

As to claims 12 and 13, these are rejected for the same reasons as claims 3 and 4, respectively.

As to claim 15, Rising as modified teaches the one or more data objects are received from a messaging middleware [paragraph 0066 of Lavin].

As to claim 16, Rising as modified teaches the one or more data objects are received from an application, the application being coupled to a messaging middleware [paragraph 0066 of Lavin].

As to claims 18 – 21, these are rejected for the same reasons as claims 1 – 4 and 6, respectively.

As to claim 23, Rising as modified teaches wherein the communications line includes messaging middleware [paragraph 0066 of Lavin].

As to claims 24 and 25, these are rejected for the same reasons as claims 3 and 4, respectively.

(10) Response to Argument

Appellant argues in substance that:

(1) Appellants refer to page 13, line 10 – page 14, line 21 as a non-limiting example that provides disclosure of converting data in XML to non-XML. As one non-limiting example, page 13, line 10 - page 14, line 21 describes exemplary code for target object creation. In other words, the claimed invention describes transforming object data in XML to non-XML target objects. The non-limiting exemplary code noted above discloses a specification of a process to transform a source object that can be represented by XML data to a target object that can be represented by non-XML data, such as in a Java object, or an object represented by another programming language. The depicted XML code specifies various fields and syntax for such transformation. In the example contained in the above noted portion of the specification, a source object is mapped into a target object array that can be represented in a non-XML programming language [p. 7 of Appeal Brief];

(2) The Office Action further alleges that dependent claims 4, 13, 20, and 25 identify non-XML application-specific object model types but that the specification discloses application-specific object model types as XML on page 8, lines 8-9 and line 27 of the specification. Applicants again respectfully disagree. The cited portion of Applicants' specification describes a non-limiting XML schema of an application-specific object model type. Further examination of the disclosed XML schema reveals that it expresses the structure and constraints of a non-XML application-specific object model type. For example, lines 35-37 of page 8 of the specification discloses certain

application-specific constraints of the non-XML object (e.g., element name is "Id" and

element type is "integer") [p. 8 of Appeal Brief].

        (3) Appellants submit that support for a computer readable medium can be found

on at least page 20, lines 18-24 of the specification, which recites the following:

> Computer program instructions for implementing the network inventory adapter
> may be stored on the disk storage device 225 until the processor
> 200 retrieves the computer program instructions, either in full or in part, and
> stores them in main memory 220. The processor 200 then executes the
> computer program instructions stored in the main memory 220 to implement the
> features of network inventory adapter. The program instructions may be
> executed with a multiprocessor computer having more than one processor.

> Accordingly, Applicants submit that the specification provides ample support for a

computer readable medium and that the rejection is misplaced and should be

overturned [p. 9 of Appeal Brief];

        (4) In contrast, claim 1 discloses employing mapping rules including XML based

syntax that uses rule specification guide to facilitate transforming the one or more data

objects in XML to non-XML. In other words, the mapping rules facilitate transformation

of the data objects to non-XML data without resorting to XSLT transformation and its

attendant inefficiencies (e.g. due to xpath queries) [p. 11 of Appeal Brief];

        (5) Rising, like references cited by previous Office actions in the instant

application, focuses on a system that uses XSLT transformation to achieve an overall

solution. The XSLT transformation transforms a first XML document type into a second

XML document type [p. 12 of Appeal Brief]; and

Examiner respectfully traverses Appellant's arguments:

As to argument (1), it is noted that p. 13, line 10 – p. 14, line 21 of the

specification provides example XML code that may be used to copy similar variables

from source object to the target. The specification does not disclose that the source

object is in XML format. According to the specification, an adapter performs

transformation between a domain object model format (DOM) and an application

specific object model format (ASOM) [p. 4, lines 18 – 20; p. 5, lines 1 – 18; p. 5, lines 19

– 30; p. 17, lines 1 – 16; "At step 82, the transformation system converts the DOM

objects to ASOM objects," p. 18, lines 7 – 9; p. 19, lines 13 – 19] and vice versa ["At

step 88, the transformation system converts the ASOM objects to DOM objects," p. 18,

lines 11 – 12]. The specification discloses using XML mapping rules to transform

objects from the DOM format to ASOM format [p. 17, lines 10 – 16]. The mapping rules

are in the XML format; however, the objects are in the DOM and ASOM format. The

specification does not disclose that the DOM or ASOM format is the same as the XML

format. In fact, the specification identifies domain objects and applications objects as

JAVA objects [p. 4, lines 19 – 20]. The JAVA format is not the same as the XML format.

At best, the specification discloses performing transformation between DOM JAVA

objects (non-XML format) and ASOM JAVA objects (non-XML format).

As to argument (2), examiner respectfully disagrees because the specification

discloses that DOM and ASOM objects are represented in the XML schema. Page 8,

lines 35 – 37 of the specification is part of an ASOM XML schema file called Person-

asom.xsd (p. 8, line 27). The extension .xsd stand for XML schema definition. The

element name and element type on p. 8, lines 35-37 are XML types. For example, the

element name is an xsd:element and the integer is an xsd:integer. Therefore, the

section referred by the applicant is part of an XML definition that declares an

xsd:element and xsd:integer and does not describe a non-XML object. In the example

provided on page 8, both the DOM and ASOM object types are represented in the XML

schema. It follows that this part of the specification discloses transforming a DOM

object type (represented in XML schema) to an ASOM object type (also represented in

XML format). Therefore, this part of the specification converts data in XML to XML and

also fails to disclose converting data in XML to non-XML.

As to argument (3), examiner notes that p. 20, lines 18 – 24 of the specification

provides support for disk storage device 225 and main memory 220. The specification

also discloses wireless communication such as infrared or RF-based wireless

communication (p. 21, lines 2 – 4). The specification does not disclose "computer

readable medium". Examiner takes the position that the disk storage device, main

memory, and carrier waves or signals in the wireless communication are all considered

to be different types of computer-readable medium. Therefore, the claimed "computer

readable medium" includes wireless signals, which are non-statutory subject matter.

As to argument (4), examiner notes that the claimed mapping rules to

transforming the data objects do not preclude the use of XSLT transformation.

The XSLT document in Rising is an XML based document that contains mapping rules

(transform functions defined in an XSLT document that maps between DDL and ASDL

namespaces; paragraph 0023) including XML based syntax (XSLT, XML stylesheet

translation; paragraph 0023) that uses rule specification guide to transform the one or

more data objects in XML (DDL for MPEG-7 multimedia content is based on the XML;

paragraph 0008) to non-XML (ASDL may written in a language other than XML;

paragraph 0024). The XSLT in Rising meets the limitation "mapping rules including

XML based syntax that uses rule specification guide to facilitate transforming the one or

more data objects in XML to non-XML". The claims do not recite or suggest that the

mapping rules can not be XSLT.

As to argument (5), examiner notes that the XSLT transformation in Rising does

not transform a first XML document type into a second XML document type. The XSLT

in Rising transform a first XML document type (DDL; paragraph 0008) to a second non-

XML type (non-XML type where "ASDL may be written in a language other than XML";

paragraph 0024).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the

Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Li B. Zhen/

Primary Examiner, Art Unit 2194

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